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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,311	11/21/2005	Sankar Narayan Jagannathan	1890-0188	6425

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EXAMINER	
TAHA, SHAQ	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/524,311	JAGANNATHAN ET AL.	
	Examiner	Art Unit	
	SHAQ TAHA	2446	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *18 and 20 - 37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *18 and 20 - 37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This is a non-final action for application number 10/524,311 based on after a Pre-Brief Conference request filed on 07/27/2009. The original application was filed on 11/21/2005. Claims 18 and 20 - 37 are currently pending and have been considered below. Claims 18, 30, and 36 are independent claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 18, 23 – 28, 30, 31, 35, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lau et al. (US 2003/0033430), in view of Sugiyama et al. (US 5,477,547)

Regarding claim 18, 30, and 36, a method for routing of data .packets, comprising the steps: (a) extracting a destination address identifier from a data packet to be forwarded, **[System 190 includes flow monitors 150 and 160, which extract addresses of data packets in the network at measuring points 170 and 180, respectively, (Lau et al., Paragraph 24)],**

(b) compressing the destination address identifier using a compression algorithm, **[To minimize the amount of data stored and communicated between flow monitors 150 and 160, source/destination address table 270 or 370 may be compressed by keeping track of the network addresses rather than the full host addresses that are determined from the identified destination addresses, (Lau et al., Paragraph 45)],**

(c) comparing the compressed destination address identifier with forwarding addresses available for routing, **[A destination address of each packet identified at the first point is compared with one or more destination addresses of packets identified at the second point, (Lau et al., Paragraph 10)],**

Which forwarding addresses have been compressed using the compression algorithm and stored as entries of a routing table entries of a routing table, **[source/destination address table 270 or 370 may be compressed by keeping track of the network addresses rather than the full host addresses that are determined from the identified destination addresses, (Lau et al., Paragraph 45)],**

and (d) if a positive comparison between the compressed destination address identifier and an entry stored in the routing table is found in step (c), **[When the address comparison produces a match, a source address corresponding to the packet identified at the first point is identified, (Lau et al., Paragraph 10)],**

Lau et al. fails to explicitly teach switching the data packet to an output link associated with the forwarding address corresponding to the entry,

Sugiyama et al. teaches that the FIFO memory earlier allows the delivery of the packet as an output and the switching network performs such control as to connect the output of the FIFO memory to a port of the LAN at a transmit destination side, **(Sugiyama et al., Col. 2, lines 52 – 60)**, in order to compress the transmit source address in the packet and for generating a table memory address, **(Sugiyama et al., Col. 2, lines 10 - 13),**

it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Lau et al. by switching the data packet to an output link associated with the forwarding address corresponding to the entry, **(Sugiyama et al., Col. 2, lines 52 – 60)**, in order to compress the transmit source address in the packet and for generating a table memory address, **(Sugiyama et al., Col. 2, lines 10 - 13).**

Regarding claim 23, the method according to claim 19, wherein step (c) further comprises comparing the compressed destination address identifier with entries of the routing table taking into account a similarity between the compressed destination address identifier and a compressed destination address identifier of a preceding data packet, **[a source address of each packet identified at the second point is compared with one or more source addresses of packets identified at the first point , (Lau et al., Paragraph 12)].**

Regarding claim 24, the method according to claim 19, wherein step b) further comprises compressing the destination address identifier using a code table that

associates a code word to a symbol of the destination address identifier and to a symbol of each forwarding address, respectively, **[Flow database 280 may include source and destination addresses associated with the flow of data between measuring points 170 and 180, (Lau et al., Paragraph 27)].**

Regarding claim 25, the method according to claim 24, wherein each symbol of the destination address identifier and each symbol of a forwarding address, respectively, comprises a plurality of bits of the destination address identifier and a plurality of bits of the forwarding address, respectively, **[classifying each identified network address based on a range of bits in the identified network addresses, (Lau et al., Claim 4)].**

Regarding claim 26, the method according to claim 25, wherein each symbol of the destination address identifier and each symbol of the forwarding addresses comprises four successive bits of the destination address identifier and the forwarding address, respectively, **[classifying each identified network address based on a range of bits in the identified network addresses, (Lau et al., Claim 4)].**

Regarding claim 27, the method according to claim 24, wherein step b) further comprises compressing the destination address identifier using the code table that associates the code word to the symbol of the destination address identifier, **[Flow**

database 280 may include source and destination addresses associated with the flow of data between measuring points 170 and 180, (Lau et al., Paragraph 27)],

the length of each code word being inversely related to an appearance probability of a corresponding symbol in the code table, **[The addresses identified in local network address table 295 may correspond to source or destination addresses of an identified data packet, (Lau et al., Paragraph 28)].**

Regarding claim 28, the method according to claim 24, wherein step b) further comprises compressing the destination address identifier using the code table that associates the code word to the symbol of the destination address identifier, **[Flow database 280 may include source and destination addresses associated with the flow of data between measuring points 170 and 180, (Lau et al., Paragraph 27)],**

the length of each code word being inversely related to an appearance probability of a corresponding symbol in the destination address identifier of an input data packet, **[The addresses identified in local network address table 295 may correspond to source or destination addresses of an identified data packet, (Lau et al., Paragraph 28)].**

Regarding claim 31, the routing apparatus according to claim 30, further comprising a second data compressor configured to compress the forwarding addresses according to said data compression algorithm, **[To minimize the amount of data stored and communicated between flow monitors 150 and 160,**

source/destination address table 270 or 370 may be compressed by keeping track of the network addresses rather than the full host addresses that are determined from the identified destination addresses, (Lau et al., Paragraph 45)].

Regarding claim 35, the routing apparatus according to claim 12, wherein the routing unit is operably connected to provide feedback information to the first data compressor, **[Flow monitor 160 may include a processor 300, a bus 310, a memory 320, a network interface 330, and an input/output module 340, (Lau et al., Paragraph 32)].**

Claims 20,32, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lau et al. (US 2003/0033430), in view of Sugiyama et al. (US 5,477,547), and further in view of Priborsky et al. (US 6,883,079)

Regarding claim 20, 32 and 37, Lau et al. teaches that to minimize the amount of data stored and communicated between flow monitors 150 and 160, source/destination address table 270 or 370 may be compressed by keeping track of the network addresses rather than the full host addresses that are determined from the identified destination addresses**, (Lau et al., Paragraph 45),**

Lau et al. fails to teach that the compression algorithm comprises a lossless data compression algorithm,

Priborsky et al. teaches that any lossless compression algorithm may be used, **(Priborsky et al., Col. 9, lines 25 - 30)**, in order to provide a method and apparatus for increasing the apparent bandwidth of memory, **(Priborsky et al., Col. 2, lines 27 – 30),**

it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Lau et al. by including that the compression algorithm comprises a lossless data compression algorithm, **(Priborsky et al., Col. 9, lines 25 - 30)**, in order to provide a method and apparatus for increasing the apparent bandwidth of memory, **(Priborsky et al., Col. 2, lines 27 – 30).**

Claims 21 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lau et al. (US 2003/0033430), in view of Sugiyama et al. (US 5,477,547), and further in view of Okada et al. (US 6,026,198)

Regarding Claim 21 and 33, Lau et al. teaches that to minimize the amount of data stored and communicated between flow monitors 150 and 160, source/destination address table 270 or 370 may be compressed by keeping track of the network addresses rather than the full host addresses that are determined from the identified destination addresses**, (Lau et al., Paragraph 45),**

Lau et al fails to teach Huffman algorithms and Lempel-Ziv,

Okada teaches Huffman algorithms and Lempel-Ziv algorithm, **(Okada et a., Col. 2, line 10) & (Okada et a., Col. 1, line 47),** to have the advantage of using Huffman algorithms and Lempel-Ziv algorithm to compress data,

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Lau et al. by including Huffman algorithms and Lempel-Ziv algorithm **(Okada et a., Col. 2, line 10) & (Okada et a., Col. 1, line 47),** to have the advantage of using Huffman algorithms and Lempel-Ziv algorithm to compress data.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lau et al. (US 2003/0033430), in view of Sugiyama et al. (US 5,477,547), and further in view of Yamato et al. (US 6,094,431)

Regarding Claim 29, Lau et al. teaches that to minimize the amount of data stored and communicated between flow monitors 150 and 160, source/destination address table 270 or 370 may be compressed by keeping track of the network addresses rather than the full host addresses that are determined from the identified destination addresses**, (Lau et al., Paragraph 45),**

Lau et al fails to teach that forwarding data packet from an IPv6,

Yamato teaches that for the identifier of the IP packet flow, when the packet is in a format according to the Internet Protocol Version 6 (IPv6), a set of a flow label value and a source address value given in the header portion of the packet is used, **(Column 24, lines 45 - 52),** to forwarding data packet from an IPv6.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Lau et al. by including an IPv6 to forward data packet as to forward data packet from an IPv6, **(Column 24, lines 45 - 52).**

Claims 22 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lau et al. (US 2003/0033430), in view of Sugiyama et al. (US 5,477,547), and further in view of Patej et al. (US 2003/0222996)

Regarding claims 22 and 34, Lau et al. teaches that to minimize the amount of data stored and communicated between flow monitors 150 and 160, source/destination address table 270 or 370 may be compressed by keeping track of the network addresses rather than the full host addresses that are determined from the identified destination addresses, **(Lau et al., Paragraph 45),**

Lau et al. fails to teach adjusting at least one parameter of the data compression algorithm in dependence upon data characteristics of the destination address identifier,

Patej et al teaches adjusting compression parameters in response to an analysis of the captured image information, **(Patej et al., Paragraph 7, Page 1)**, to change the compression ratio (for example, quality setting), and so adjust the volume, the file size, or bitrates of the compressed data, **(Patej et al., Paragraph 20, Page 2)**,

it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Lau et al. by adjusting compression parameters in response to an analysis of the captured image information, **(Patej et al., Paragraph 7, Page 1)**, to change the compression ratio (for example, quality setting), and so adjust the volume, the file size, or bitrates of the compressed data, **(Patej et al., Paragraph 20, Page 2).**

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Shaq Taha** whose telephone number is 571-270-1921. The examiner can normally be reached on 8:30am-5pm Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Jeff Pwu** can be reached on 571-272-6798.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/S. T./

Examiner, Art Unit 2446

/Jeffrey Pwu/

Supervisory Patent Examiner, Art Unit 2446